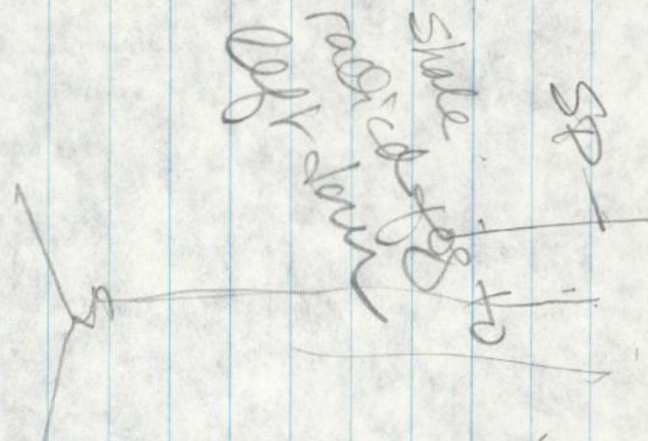


332'

$$\begin{array}{l} \text{Lin ft/cu ft} \quad \text{cu ft/s} \\ (10.99) (1.15) (90054) \end{array}$$

$$(1.15)(900) = 1301.95$$

$$\text{Lin ft/cu ft}$$



$$\text{cu ft/s}$$

5X

1301.95

1035
1.25

2.1'

10/2/84
Jing, J. #1
MTS21PW-0008

P&A Plan Review

Pull Tubing

Plug #1

in 4 1/2" @ 9.5# 3850-3600 20 SK 15.8wt Class
(1.15) (CFI/SK)

$$(10.960)(1.15)(20) = 252' \text{ Linear Feet } \checkmark$$

Plug #2

in 10 3/4" (surface) @ 40.5# 100-surface 38 SK 15.8wt Class G
(TO fill 4 1/2" - 10 3/4" casing casing annulus)

$$(2.591)(1.15)(38) = 113' \text{ Linear Feet } \checkmark$$

Plug #3

in 4 1/2" @ 9.5# 1350-1250 8 SK 15.8wt Class G

$$(10.960)(1.15)(8) = 100.8 \text{ Linear Feet } \checkmark$$

Plug #4

in 4 1/2" @ 9.5# 100-surface 8 SK 15.8wt Class G

$$(10.960)(1.15)(8) = 100.8 \text{ Linear Feet } \checkmark$$

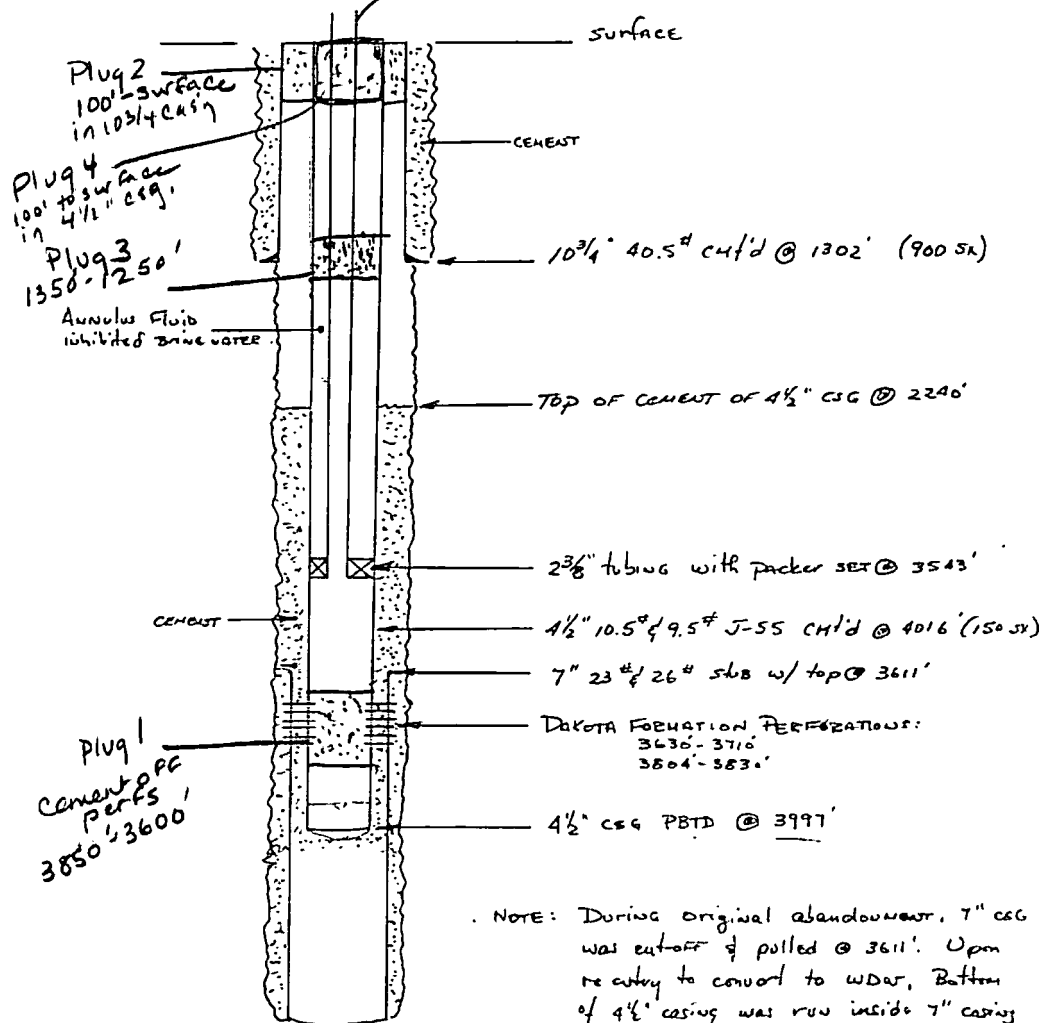
Cementing calculations are correct

P+A review 10/2/84

GOINGS GOVERNMENT WDW #1
NW Poplar Field

Tubing pulled

DOWNHOLE SCHEMATIC



NOTE: During original abandonment, 7" CSG was cut-off & pulled @ 3611'. Upon re-entry to convert to WDW, Bottom of 4 1/2" casing was run inside 7" casing SUB. The 4 1/2" CSG was cemented from 3997' to 2240'.

10/1/84

①

Statement of Basis Opening

Well # Goings Gov't #1, Roosevelt Co., MT

UIC Permit # MT 521PW-0008

Description of Facility, . . .

Grace Petro is currently injecting ~~product~~ water from ~~the top~~ 13 wells producing from the ~~Dakota~~ Charles formation. The wells as follows: Baker Center #1; Bucks Elk #1; Cavan Western; Cut Hair; Goings #1-10; Iron Bear #2; Iron Bear #4; Reid #10-1; Richards #1-2; Richards #1-3; War Club #1R; and the Zimma War Club #2; and the Zimmerman #1. The Goings Gov't #1 has been injecting these ~~for~~ produced fluids into the Dakota formation since May 1, 1977. There are no known drinking water wells within the area of review.

Same



③ Injection Interval

Permit Language : Dakota 3630-3830'

Statement of Basis : The Dakota Fm has been exempted in a 1/4 mile radius of the well bore of the SS as a USDW. In addition, the appl. has been injecting fluid of almost 200,000 TDS since May, 1977. Therefore, a representative sample of the ^{ambient} water quality of the Dakota is not practical. The Mt. Oil & Gas Comm. has indicated that the ~~majority~~ ^{majority} of the USDWs in the area occur above the Bearpaw Shale in this area, and are therefore protected from migration by the ^{1300'} surface casing.

Get Data for FICHE

④ 10/2/84
Gouss Gout
MTS2/PW-0008

Injection Pressure

Permit Lay -

Statement of Basis ~~1~~ ① ^{th 85 #1}
An addl. ^{conversion for} A well completion report dated March 17, 1977
indicated that the ISIP for the Dakota
Fm is 900 psi. The appl. has requested
a max. inj. pres of 875 psi, which
will not initiate fractures in
the formation. ~~An addl.~~ accordi
to.

① * ~~accordi~~ to.

$$P_m = (0.733 - 0.433(S_g))d$$

.237

~~.495~~

$$P_m = (.237)d = 907.7 =$$

$$S_g = 1.145 \quad 908 \text{ psi.}$$

.4957 An addl.

⑤

• Injection Interval Volume -

Permit 3000 BWPD

Struc of Basis - Same

6

P+ A Plan

Permit holder + EPA reserves the right to change the manner in which the well must be plugged if the well is not proven to be consistent w/ the EPA require for MT as discussed in conel 10 of this permit.

Stat. of Basis

The P+ A plan as submitted by the appl and included as att A will be considered satisfactory only after the permittee has proven that the well has been cons^{ist} in a manner consist w/ EPA requirements as disc in conel 10 of this permit.

M.I.

①

Joings
10/2
M.I. of well

100-401-200
50

Strut of Basis

EPA has reviewed well logs + workover reports for the Joings #1. The Joings #1 was originally constructed in 1953, as a producer in the Charles C zone (6052-6062). In 1969, the well was plugged and abandoned. In the course of abandoning the well, the 7" production string was cut + pulled out of hole, leaving a stub top at 3611'. It is not clear from the completion report or abandonment report whether or not the 7" stub was cemented from TD to 3611'. Our records indicate it is not, that the initial completion of the well had entailed cementing the 7" casing into place at TD of 6123' with 150 sacks of cement. In a 9" hole, the height of the cement column only reaches to 5136'. Therefore, we assume that the 7" casing is uncemented from 3611' down to 5136' (1525'). The formations that are exposed in this uncemented interval are relatively impermeable (determined from the well log), nonetheless, the well cannot be declared to have integrity until it has been proven that the perforated interval is isolated by cement.

The well was reentered in 1977 + converted to a WDW, the current well configuration is ~~at~~ included as attachment B. This ~~is~~ schematic, as represented by the applicant indicates ~~on~~ that the 7" casing is cemented from 3611' to the TD of the well.

ok
basis
@ Dept.

(2)

Well Construction MI

Permit Language:

(a) A MIT must be performed before the eff. date of this permit. In add, the permittee must demonstrate the placement and integrity of the cement bonds along the well bore, and that those bonds effectively isolate the inj. zone. The permittee may do so by either performing + submitting to EPA an injection profile (radioactive tracer or temp survey), or by producing records demonstrating the current configuration + integrity of all the cement bonds of the well. EPA's sat. If a permittee cannot prove the isolation of the inj. zone, the permittee shall be obliged to block squeeze the injection zone to seal off all channels of commun., and subsequently re-perforate for inj. purposes. In add, the permittee shall supply proof that the cement top in the 9" hole + 4 1/2" casing annulus

Status of Basis: See attached

is 2240
by means
of a CBL
or other
method
determined
to be accep
of EPA.

111

(2)

Start of Basis

The burden of proving that there is a ^{good} cement ^{bond} between the 4 1/2" - 7" casing annulus, and between the 7" - hole formation annulus, ~~lies with the applicant.~~ ~~Prove~~ and that the cement PBID of 43997' has integrity, lies with the applicant. To prove that the injection zone (3630'-3830') is isolated, ^{by cement bond,} & will not allow the migration of inj. fluid up or down the well bore. The applicant must, before commencing injection perform one of the following tests: *

They ^{applicant} submit a copy of the test + ~~as a~~ ^a statement of how the test data proves integrity of the cement bond to EPA.

* 1. Injection Profile - either by temp survey or radioactive tracer. This profile must show unequivocally ~~how the~~ that the inj. fluid moved into the Dakota only thru the designated perms.

2. Prove ~~that~~ ^{by} ~~the~~ ^{old} cement bond logs, ~~and~~ ^{the} ~~logs~~ ^{logs} that the 7" stub has been cemented from the top of the stub to the TD, and that the bond has integrity.

3. If the appl. cannot prove to EPA's satisfaction that the inj. zone has integrity, then the appl. must run a block squeeze,

(3)

A for similar test, to effectively seal off the inj. zone from any communication w/ other zones, either along the well bore or, up in the old casing.

Because the surf. casing is cemented thru the G R 50 feet into the Claygate shale (1300'), the uppermost potential vSDW's are considered safe from press. cont. ~~As~~ long as the cement bond is to have + maintain integrity, ~~EPA~~ the inj. fluid will ~~enter~~ exit thru the string of 2 7/8 inch tubing set up a phr above the perfs @ 3543' and at the perf interval of 3630-3830'. However, EPA cannot allow continued injection into this well until it has been deter. that it has no I along the wellbore from the surface to the TD of the well.

In addition, the donhole schem indicates that the top of the 4 1/2" Cement is 2240'. This is to the off date of the print. The appl must supply proof that the Cement top is in the 9" hole - 4 1/2" Casing annulus is 2240'.

Because the location + integrity of the cement bond is so vital to the protection of vSDW's,

RECORD OF COMMUNICATION	<input type="checkbox"/> PHONE CALL <input type="checkbox"/> DISCUSSION <input type="checkbox"/> FIELD TRIP <input type="checkbox"/> CONFERENCE <input type="checkbox"/> OTHER (SPECIFY) _____	
(Record of item checked above)		
TO: Roger Frenette, Chief Neepawa Water Branch	FROM: Ms. Felicity Hannay, Attorney for Grace Petroleum ^{-WIFE-} 892-4251	DATE 10/1/81 TIME 12:20 PM
SUBJECT EPA Denial of Emergency Permits 0007, 0008 and 0009		
SUMMARY OF COMMUNICATION <p>Received call from Ms. Felicity Hannay, Attorney for Grace Petroleum regarding our denial of Emergency Permits 0007, 0008 and 0009. She feels Grace Petroleum erred in their request (for Emergency Permits) and is certain that a soundly-based request can be submitted under "Subsection 3," as she called it. I chose not to get into details and offered that any explanation could best be made in a meeting by bringing her proposal forward.</p> <p>Ms. Hannay said that Grace Petroleum's PLM lease agreement will be jeopardized under current projected actions "if no petroleum is produced for a consecutive 30-day period." Further a PLM lease condition stipulates that "no brines leave the site." PLM has provided Grace Petroleum a <u>temporary</u> verbal release from that lease condition according to Ms. Hannay. Grace Petroleum is eager to discuss their option with us because they foresee serious lease and production difficulties ahead.</p> <p><u>Follow-up</u></p> <p>I informed Ms. Hannay that Pat Crotty would get back to Jim Johnson at 820-0120 to set up a meeting in our office for this week. I did not have staff schedule. At attendance would be Pat Crotty, Dick Long and Derrick Hobson. Ms. Hannay will accompany Jim Johnson.</p>		
CONCLUSIONS, ACTION TAKEN OR REQUIRED <div style="border: 1px solid black; border-radius: 50%; width: 150px; height: 50px; margin: 20px auto;"></div>		
INFORMATION COPIES TO: Pat Crotty, Dick Long, <u>Laura Clemmons</u> and Derrick Hobson		

October 1, 1984

MEMORANDUM:

TO: Pat Crotty, Dick Long, Derrick Hobson, Roger Frenette
FROM: Laura Clemmens
SUBJECT: Conversation with BLM regarding Grace Petroleum

I called Pasqual Laborda of the Miles City office of the BLM in response to Roger's memo (attached). A representative from Grace had contacted him with regard to using a temporary disposal facility to handle the water that would normally be disposed of in the three shut-in wells we are currently permitting (EPU 110-XD, Goings Government, and Buck Elk 2). Grace cannot stop production from the source wells without losing their lease, so an alternative had to be found. According to Pasqual, Grace will be shipping the produced water to an existing well in Roosevelt County operated by Roosevelt Disposal Services. Grace will dispose of approximately 3000 BWPd of water into an existing salt water disposal well, thereby increasing the volume of disposal in that well by that amount (I don't know if we should be concerned about the additional disposal volume in the Roosevelt Disposal Services well at this time).

At my request, Pasqual told me that BLM will obtain the specific data on the temporary disposal well and send it to us as soon as possible. For future reference, what offices of BLM should we notify of our actions as stated in the MOU? The Billings office? The field offices? Someone should prepare a list of the appropriate addresses and phone numbers of the BLM contacts for our future use. I have sent copies of all our correspondence to Grace, as well as a copy of the 9/28 letter from Grace notifying us of their shutting in the three subject wells to Pasqual. For your information, Pasqual can be reached at (406) 232-4331.

RECORD OF COMMUNICATION		<input checked="" type="checkbox"/> PHONE CALL <input type="checkbox"/> DISCUSS <input type="checkbox"/> FIELD TRIP <input type="checkbox"/> CONFERENCE <input type="checkbox"/> OTHER (SPECIFY)	
		(Record of item checked above)	
TO: Roger Frenette <i>RF</i>	FROM: Mr. Pasquale (sp) Miles City Office of BLM	DATE 9/28/84	TIME 2:30 PM
SUBJECT Grace Petroleum			
SUMMARY OF COMMUNICATION <p>Received call from Mr. Pasquale (sp) of Miles City Office of BLM. He was attempting to help Grace Petroleum find alternative disposal practice/places that would result from shutting in wells 0007, 0008, and 0009. Fifteen (15) wells producing 157 bls/d of oil may need to be closed if alternatives are not found. (The brines from those 15 wells are currently injected in wells 0007, 0008, and 0009.)</p> <p>He was concerned that he had not received any data on our action per our MOU. Have we sent him a copy of our letter? If not, please do. I told him of the 3 items in our letter.</p> <p>I also told him of events that led up to our denial of Emergency permits. I told him wells 0007, 0008, and 0009 could <u>not</u> be used; penalty amounts were given.</p> <p>He will search for other existing S.W.D wells or existing brine pits as alternative temporary brine disposal practices.</p>			
CONCLUSIONS, ACTION TAKEN OR REQUIRED <p>No action required.</p> <p><i>Action Taken: 10/1/84 - All copies of all our correspondence to Grace, and a copy of Grace's letter informing us that they were shutting in were sent to Mr. Pasquale <u>Laura</u>.</i></p>			
INFORMATION COPIES TO: Laura Clemmens ✓ Info:cc: Pat Crotty, Dick Long			

RECORD OF COMMUNICATION

☐ PHONE CALL ☒ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO:

Richard Long

FROM:

Derrick Hobson

DATE

Sept. 25, 1984

TIME

2:30 p.m.

SUBJECT

Grace Petr. and possible litigation efforts

SUMMARY OF COMMUNICATION

Tom Speicher got a call from Glenn Unterberger, Acting Associate Enforcement Counsel for Water Enforcement in which Unterberger expressed some concern over the Grace ~~situa~~ situation. Evidently G.U. has been talking with Alan Morrissey. G.U. indicated that for the first enforcement cases that his office may be exerting significant authority (as in they may want to handle the case from Headquarters). Fortunately Tom had more knowledge of the Grace situation than G.U. I was left with the impression that G.U. was not going to take any action over our objections at this time.

Speicher wants Derrick to brief him and Al Smith on Thursday (9/27) on the specifics of the case. Derrick is ~~re~~ preparing material for that briefing and I agreed to review it for him. There is no need for GW Section participation in the briefing.

Tom has indicated to Derrick that he will fight to retain control of enforcement cases in the Region but that program help would be essential (in the Region and in Headquarters).

The feeling is that Water Enforcement wants to call out the Marines and take immediate and harsh action. As a fall back the Rangers, with their rousing success on the dark forces of Granada would suffice.

OGC on the other hand wants to have the first enforcement action be a significant one. They would prefer a case of documented ~~blood~~ but if this one is the only one they will take it on, ~~blood~~.

Ent. Sensitive

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Recommendation from the Team Leader:

It may be worth trying to muster support from within the Office of Drinking Water (Vic or Paul). We stand a much greater chance of retaining control over this situation (and all enforcement actions) if ODW is in our camp.

Otherwise, I continue to say that our resources are best spent trying to get the permits out and I do not want to divert Laura onto the lit. report until after the permits are out for public comment.

INFORMATION COPIES

TO: Laura Clemmens, Pat Crotty, Roger Frenette

RECORD OF COMMUNICATION

☐ PHONE CALL ☒ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Richard Long	FROM: Derrick Hobson	DATE Sept. 25, 1984 TIME 2:30 p.m.
---------------------	-------------------------	---

SUBJECT
Grace Petr. and possible litigation efforts

SUMMARY OF COMMUNICATION

Tom Speicher got a call from Glenn Unterberger, Acting Associate Enforcement Counsel for Water Enforcement in which Unterberger expressed some concern over the Grace ~~situa~~ situation. Evidently G.U. has been talking with Alan Morrissey. G.U. indicated that for the first enforcement cases that his office may be exerting significant authority (as in they may want to handle the case from Headquarters). Fortunately Tom had more knowledge of the Grace situation than G.U. I was left with the impression that G.U. was not going to take any action over our objections at this time.

Speicher wants Derrick to brief him and Al Smith on Thursday (9/27) on the specifics of the case. Derrick is ~~xx~~ preparing material for that briefing and I agreed to review it for him. There is no need for GW Section participation in the briefing.

Tom has indicated to Derrick that he will fight to retain control of enforcement cases in the Region but that program help would be essential (in the Region and in Headquarters).

The feeling is that Water Enforcement wants to call out the Marines and take immediate and harsh action. As a fall back the Rangers, with their rousing success on the dark forces of Granada would suffice.

OGC on the other hand wants to have the first enforcement action be a significant one. They would prefer a case of documented contamination but if this one is the only one they will take it on, but go after blood.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Recommendation from the Team Leader:

It may be worth trying to muster support from within the Office of Drinking Water (Vic or Paul). We stand a much greater chance of retaining control over this situation (and all enforcement actions) if ODW is in our camp.

Otherwise, I continue to say that our resources are best spent trying to get the permits out and I do not want to divert Laura onto the lit. report until after the permits are out for public comment.

INFORMATION COPIES

TO: Laura Clemmens, Pat Crotty, Roger Frenette